

COFFEE MACHINES AND HOW TO USE THEM

THE WHYS AND WHEREFORES OF COFFEE MAKING

By ANNE LEWIS PIERCE and LOUISE M. WILLIAMS

Tribune Institute

NO MATTER how fine the grade of coffee is, or what kind of roast it has gone through, it can be spoiled in the making. A bitter, muddy beverage may mean only a careless cook.

There are three well known methods of preparing coffee—boiling, percolating and filtering.

The Case Against Boiled Coffee

The old practice of boiling coffee is fast disappearing, because science is gradually convincing the cook that boiling the coarser grindings in order to bring out the flavor and strength is a far inferior method to grinding the coffee bean more finely and filtering it. In making the boiled beverage a medium granulated coffee is placed in the pot with cold water and boiled for five minutes. A little cold water poured into the coffee settles it and it is then ready for serving. The longer coffee is boiled the more "muddy" it becomes, because of the breaking down of the fibrous material of the bean. The boiling of coffee also lowers its quality, because the longer it stands on the grounds the more tannin is extracted, the more bitter it is and the more unwholesome it becomes. It is, therefore, a method to be discouraged in the opinion of all chemists and most cooks, though some still protest a fondness for the old-fashioned boiled coffee, made with an egg, and claim for it more richness, body and aroma.

Many housekeepers use eggs or crushed shells to settle the boiled coffee. The egg albumin coats the grounds, making them heavier, so that they will sink to the bottom. This custom does not improve the flavor at all, and the clearing can be more easily accomplished by cold water and by pouring the beverage through a very fine strainer.

The Easiest Way Is Not the Best

Percolating is probably the most popular method, as it is easiest. Finely ground coffee is held in a perforated metal basket, and the water is sprayed over it, being repeatedly pumped up through the tube, starting lukewarm. It gets hotter during the process, but does not boil. Most authorities agree that the best flavor cannot be obtained with water below the boiling point, and chemical analysis shows that the longer the water is in contact with the grounds the more tannin is extracted.

Aborn quotes boiled and percolated coffee as containing 2.21 to 2.90 grains of tannin to a cup, while filtered had only one-fifth to one-fourth of a grain. The amounts of caffeine (the ingredient that keeps you awake and affects the nerves) are about the same for all.

Filtration Is the Method Approved by Science

In the filtration method boiling water is poured over the pulverized coffee, both coffee and water being in the best conditions for extraction. If water is poured through more than once the liquid becomes darker, but more tannin is extracted, and some hold that the flavor deteriorates.

Use one heaping tablespoonful (two level tablespoonfuls) of ground coffee to one cupful of water, and "one for the pot," as our grandmothers always told us, for boiled or percolated coffee, but omit the allowance for the



Two types of coffee grinders. The upper mill fastens to the wall and the glass airtight container holds a pound of bean coffee. Coarse, medium and fine grinds can be obtained. The other model clamps to the table and will give pulverized coffee as well as other degrees of fineness.



The familiar electric percolator. Note the removable percolating device, consisting of perforated basket, spreader, stem and valve.

The popular glass filter, alcohol heated. With the newest model simply unlocking the handle permits tilting the bowl to pour out the contents.

The degree of fineness for the coffee depends on the method of preparing it. Some housekeepers believe that coarse granulation and boiling for a short time are two essentials for good coffee. Science declares the contrary is true. A freshly pulverized coffee and fresh rapidly boiling water passing over the grounds once are held to be the two most important factors in making good coffee.

It is difficult to give any hard and fast rules in coffee making for two reasons. First, the matter of personal taste plays a large part—one man's favorite coffee does not suit the next man at all—and a coffee that is excellent with cream may not be a satisfactory brew to serve black.

Again, many factors enter into the problem and interact on each other. It is conceded that "good coffee" depends almost equally on the grade and kind of coffee used, the roast and the method of making the beverage.

COFFEE MACHINES AND GRINDERS

By DE WITT V. WEED, JR.
Engineering Expert, The Tribune Institute

The three ways of preparing coffee by boiling, by percolation and filtration call for three different types of "coffee pots." Coal range or electricity, alcohol or gas will heat the coffee pot, but those who prefer the boiled coffee will find the coal or gas range the most practicable for this method. The pot is usually enamelled ware, aluminum or tin, nickel or copper plated.

Percolators

Percolators may be used on any stove or be electrically operated or alcohol heated. The stove types contain a percolating device consisting of a perforated basket, stem and valve and are usually fitted with a glass cover. They are made of enamelled ware, aluminum or nickel-plated copper. With cold water percolation begins in two to three minutes, and the beverage is ready for serving inside of fifteen minutes. It requires no attention and there is no problem of "settling the grounds."

A popular form of percolator is the electrically heated type, which can be used from a lamp socket, and even beginning with cold water percolation starts within a minute. The percolating device is like any other, but the heating element is in the form of a small cylinder, over which the stem of the percolating device fits.

A precaution necessary in using electric percolators is not to immerse the entire appliance when washing, thus wetting the base where the electrical connection is made.

The Universal electric percolators are fitted with a safety device which automatically breaks the electric circuit when the water has boiled off and the appliance itself is becoming heated to a temperature which would injure it. In this way an expensive machine is protected from the certain ruin that would result from such forgetfulness.

The urn style of percolator, which is more attractive and graceful in design than the pot type, operates similarly, but is larger in capacity.

Different Forms of Filters

The filtration method of coffee making can be carried out in the coffee pot on the stove, or there is a small device which fits over the cup and gives an excellent concoction if briskly boiling water is poured over the grounds held in it.

The Marion Harland Coffee Pot, using the filtration principle, looks like any straight-sided pot, but has a narrow cylindrical inset, which is covered at its lower end by a fine wire screen. The coffee grounds are placed in this and the boiling water poured into the inset. A perforated plate permits this water to drip onto the grounds, and extraction takes place. Only a few minutes are required, and when the water has dropped through the grounds the inset should be removed so that the beverage will not become



bitter. A pint of coffee can be made in four minutes, using powdered coffee.

Perhaps the most attractive form of filtering machine consists of a glass bowl in which the water is placed, while a covered glass funnel fitted into the top holds the pulverized coffee on a filter cloth stretched over the mouth of the funnel. This cloth is tied over a perforated metal disk mounted on a rod which runs the length of the tube and is secured by a wing nut.

The water is heated by the heat from an alcohol flame or a radiant electric unit and forced up into the funnel by steam pressure at boiling temperature. There it comes into contact with the coffee, and extraction rapidly takes place. Upon removing the lamp the beverage flows downward into the bowl, and is ready to serve unless greater strength is desired. It can be sent upward two or three times by recapping the heat.

This type of coffee machine is very popular because it is sanitary, a delicious drink of maximum wholesomeness and deliciousness is produced, and the whole process can be easily carried out at the dining table.

Why a Coffee Grinder?

Coffee deteriorates so quickly after being ground that an expert coffee tester can detect the loss of flavor and aroma that takes place with one day intervening between the grinding and brewing.

Therefore, although the sale of ground coffee in sealed packages is large among those who prefer convenience to the perfect product, the real coffee lover will always have a mill in the kitchen and insist upon the coffee being ground and transferred immediately to the coffee pot, filter or percolator.

There are only two types of grinders for the housewife's choice. They are alike in principle, but differ in style of mounting. The most common is the wall type, which has a glass container of one pound capacity and a simple device by which the grinder can be adjusted to all degrees of fineness except a pulverized or powdered coffee. It has a glass marked off in tablespoonfuls, supported below the mill to catch the coffee as it is ground. This type provides a sealed container for keeping the coffee in the bean until used.

The other type either clamps to the table or wall and may be quickly taken down when not in use, if preferred. The hopper has a capacity limited to four ounces, and only the quantity immediately required is placed in it. It is particularly designed for pulverized or powdered coffee, but will give other grindings as well.

TESTED AND ENDORSED COFFEE MACHINES AND GRINDERS

(Prices subject to change)

Coffee Pots and Percolators (stove type)

Aluminum

Aladdin. Prices, \$2-\$3. The Cleveland

Metal Products Company, Cleveland.

Monarcast. Prices, \$3-\$4. Monarch

Aluminum Ware Company, 4613

Payne Avenue, Cleveland.

Universal. Prices, \$3-\$5. Landers,

Frery & Clark, New Britain, Conn.

Wagner. Prices, \$3.50-\$5. Wagner

Mfg. Co., Sidney, Ohio.

Wear-Ever. Prices, \$2-\$3. The Alumi-

nium Cooking Utensil Company, New

Kensington, Penn.

West-Bend. Price, \$3.50. West Bend

Aluminum Company, West Bend, Wis.

Enamel

Lisk. Lisk Manufacturing Co., Canan-

daigua, N. Y.

Percolators (electric)

Hotpoint. Prices, \$9-\$15. Hotpoint

Electric Heating Company, 147 Waver-

ly Place, New York.

Universal. Prices, \$8.50-\$18.50. Lan-

ders, Frery & Clark, New Britain,

Conn.

Westinghouse. Prices, \$8-\$13. West-

inghouse Electric Manufacturing

Company, 165 Broadway, New York

Filters

Filtrola (alcohol). Prices, \$5-\$10.

Crystal Percolator Company, Inc.,

44-60 East 23d Street, New York.

Marion Harland (pot type). Prices,

\$2-\$4. Silver & Co., 304 Hewes

Street, Brooklyn, N. Y.

Silex (alcohol and electric). Prices, \$5-

\$25. The Silex Company, 45 High

Street, Boston.

Coffee Grinders

Crystal. Price, \$1.50. Arcade Manu-

facturing Company, Freeport, Ill.

Enterprise No. 100. Price, \$1.50.

Enterprise No. 0 and 00 (pulverizer).

Price, \$2.50. Enterprise Manufactur-

ing Company, New York.

Rapid. Price, \$1.25-\$1.50. Culinary

Manufacturing Company, 273-277

Livingston Street, Newark, N. J.

NOTE—See Tribune Graphic for other appliances tested and endorsed by The Tribune Institute.

JULY CANNING

LAST year the home canners were credited with \$50,000,000 quarts of vegetables and fruits. This year the ambition is to go almost twice as far; the high water mark is placed at 1,500,000,000 cans.

Even if you only put up a dozen cans, this, multiplied by 20,000,000, would mean the addition of 240,000,000 cans if the head of every family in the country did the same. (By the head of the family we mean the canner!)

It is just as essential to can your quota of vegetables and fruits as it is to buy your share of Thrift Stamps or Liberty Bonds, or to put all you can spare, whatever it may be, into the Red Cross box.

The wise housekeeper watches for the height of the season for the vegetable or fruit which she is going to can, and buys in large quantities to save money and time.

If a large amount of canning is done it is much more economical and perfectly safe to use a tin can. The Burpee Home Can Sealer makes this possible without any soldering. The device clamps to the table and two operations of turning a crank seal the solderless Sanitary Tin Can which is furnished with it. No special skill is necessary, but with experience speed is acquired and sealing one hundred an hour is no unusual accomplishment.

To insure that purchasers of the Sealer will obtain a supply of tin cans the manufacturers have reserved through the government a large quantity, which may be bought in lots of one hundred or more at the rate of \$3.55 per hundred for the pint and \$4.65 per hundred for the quart.

With tin cans there is no exhaust of the liquid due to variation of pressure and the open jar, and therefore with this method the time is considerably reduced both during the processing and between loads.

Tomatoes

For canning it is best to use firm tomatoes of medium size and uniform ripeness. Place in a wire basket and lower into boiling water for one to one and a half minutes, in order to loosen the skin, then dip quickly into cold water. Remove skins and pack tightly into jars. Add one teaspoonful of salt to each quart jar; add no water, the juice is more than sufficient; adjust rubbers and partially

seal. Sterilize in boiling water 22 to 25 minutes; in water seal canner, 214 degrees Fahrenheit, for 18 minutes; or under five pounds' pressure for 15 minutes. When sterilized, complete the seal, invert to test for leakage, cool and wrap for storage. If there are overripe tomatoes and broken pieces of tomato, a purée may be made by boiling them down to a thick sauce. Strain, in order to remove seeds, and pour over the whole tomatoes in the jar.

A tomato purée may be canned separately from the whole vegetable also. To each quart of tomato add one very small onion chopped, one-fourth cupful of chopped sweet red pepper, one-half teaspoonful salt, and one-half teaspoonful of sugar. Cook until the consistency of catsup is reached and pour into hot sterilized jars; adjust rubbers, partially seal and process 30 minutes in boiling water. Complete the seal and cool. Wrap for storing.

Any desired combination of vegetables with tomato may be prepared. Proceed with the preparation of each vegetable as though it were to be canned alone and mix in proportions according to your own taste. Vegetable combinations are sterilized two hours in boiling water.

Cabbage

Discard the outer leaves of the cabbage, remove all of the heart and cut the remaining leaves into any desired size. Blanch over live steam for 10 minutes, cold dip and pack into hot sterilized jars. Adjust sterilized rubbers, add one teaspoonful of salt to each quart jar, add boiling water to overflowing; partially seal and sterilize in boiling water for two hours; in water seal (214 degrees F.) for 90 minutes; or under five pounds' pressure for one hour. When sterilized complete the seal.

Cauliflower

Before canning cauliflower allow it to soak in a brine for one hour, using one-half pound of salt to three gallons of water. Use only the flowered portion of the cauliflower for canning. Blanch over live steam for three minutes and plunge quickly into cold water. Pack into hot sterilized jars, adjust rubbers, add one teaspoonful of salt and boiling water to overflowing. Partially seal and sterilize for one hour in boiling water; 40 minutes in a water seal (214 degrees F.); or for 30 minutes under five pounds' steam pressure. When ster-

ilized, complete the seal, invert to test for leakage, then cool.

Greens

Spinach, Swiss Chard, Beet Tops, etc.

Wash the greens very thoroughly in several waters, getting rid of all sand, dirt and old or decayed leaves. Tie in cheesecloth bags and blanch in live steam for 15 minutes. Plunge quickly into cold water, then pack tightly into hot sterilized jars. Adjust rubbers, add one teaspoonful of salt to each quart jar and boiling water to overflowing. Partially seal and sterilize in boiling water for two hours. Complete seal and when cool wrap.

To avoid a "slack" fill be careful to blanch all of the greens very thoroughly and to pack tightly into the jars. If there is a slight shrinkage after these precautions the products will not be so attractive and may dry out and fade a little on top, but still there is no increased danger of spoilage if directions for canning have been carefully followed.

The Tribune Institute At Your Service



WHEATLESS NUT AND RAISIN MUFFINS

1½ cupful tempered
out flour
1½ cupful corn flour
2 tablespoonful salt
2 tablespoonful bak-
ing powder
½ cupful molasses
1 cupful water
½ cupful raisins,
chopped
½ cupful English wal-
nuts, chopped

Mix and sift the flour, salt and baking powder, add the chopped nuts and raisins, the molasses and water. Beat well and pour into greased muffin tins or small bread pans and bake in a moderate oven. If it is baked in bread form it is more easily cut the second day.

Here is a rare combination of a wheatless and sugarless bread. Walnuts bought in the shell were used—they are about 30 cents a dozen and a half of these little muffins can be made.



TRY SQUABS

By VIRGINIA CARTER LEE

WHY restrict the squab to the late supper or the invalid's tray? They are now coming regularly into our market at a lower price than fancy young broilers.

The large homer or Jumbo squabs, as they are sometimes called, are more meaty than chickens, for as a rule the bones are smaller and there is more firm, tender flesh, hence the waste is less, even if one pays the same price per pound as for chickens.

Moreover, every young hen is a future egg producer, while the squabs have no war or economic function to urge as a reason for being allowed to grow up. They are one of the "perishables," as well as one of the luxuries, that can be eaten with a free conscience even in these days of war economy. Be sure, if you order them in advance (and many egg and butter dealers are now carrying them as a side line), to stipulate that you receive them ready dressed; for the quicker they are

cleaned after they are killed the better flavored they will be.

In nothing does a cook show her skill more than in the serving of small birds, and no one thing is more often spoiled in the cooking. The oven is too hot, the fire over which they are broiled is too high, the broiler rests too near the hot coals or the gas flame, or some other little point is neglected, and the result is often a complete failure.

Small birds, when perfectly prepared, should be a rich brown on the outside, and although the meat is thoroughly cooked the juices and delicate flavors are retained. A noted chef recommends that so-called broiled squabs should first be seared and browned over in a buttered broiler and the process finished in a covered pan in the oven. Brush over with a little bacon or pork fat before putting in the baking pan and dust lightly with salt.

When preparing squabs for cooking do not immerse in water. If you do the delicious natural flavor is dissipated. Wipe them carefully after they are cleaned with a damp towel, both inside and out.

Broiled Squabs on Liver Toast

Remove the heads and feet, split up the back and wipe with a damp cloth. For two birds put two tablespoonfuls of shortening (bacon fat preferred) and one gill of Madeira in the baking pan. Season the birds with salt and paprika, place in the pan and cover with greased paper. Roast, covered with the paper, for about fifteen minutes, then remove the paper and brown for six or seven minutes longer. Roast the livers from the birds for the last seven minutes and baste with the liquor in the pan. Dip crustless slices of crisp toast in the gravy, spread with the livers that have been mashed to a paste and seasoned with a few drops of Worcestershire sauce, salt and paprika, and serve half a bird on each toast slice. Garnish with crisp watercress.

Squab Pie

Prepare three fat, plump squabs for cooking. Stew slowly one pound of veal in strained seasoned stock to cover, and when the meat is very tender put aside to cool. Cut the veal into finger lengths and lay on the bottom of a deep oval pie dish that has been brushed over with melted shortening. Divide the squabs into halves, brown over in a little shortening and lay them over the meat piled in the centre to form a dome. Sprinkle lightly with salt, paprika and celery salt. Cut two hard-boiled eggs into quarters, lay them between the pieces of squab and add half a cupful of the

strained stock; reserve the remainder of the stock in which the veal was cooked to add hot when the pie is baked.

Wet the edge of the dish and lay a thin strip of the war-time crusts around it and press it close to the under side, so that the gravy cannot boil up under it. Dust over the contents of the pie a scant teaspoonful of rice flour and lay over the top a sheet of pastry. Cut a small hole in the centre, make several incisions for the steam to escape and brush over with beaten egg mixed with a little cold water. Bake in a hot oven until brown.

Five minutes before removing from the oven pour the remainder of the veal liquor (highly seasoned and slightly thickened) through a funnel inserted in the hole in the centre.

Braised Squabs

This recipe is excellent if the birds are not very young and tender. After wiping them off truss neatly, with only the livers inside. Heat three tablespoonfuls of pork fat and brown the birds quickly in this. Remove them, stir in one tablespoonful and a half of rice flour, and when smooth add slowly two large cupfuls of strained and seasoned stock. Season to taste with salt and paprika, add one teaspoonful of kitchen bouquet and stir until the sauce boils. Arrange the birds in a greased casserole, pour over the gravy and cook very slowly until tender. Just previous to serving add two tablespoonfuls of currant jelly to the gravy. Serve in the casserole.

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